DOCUMENT RESUME

ED 073 918 SE 015 672

AUTHOR	Fadelli, Paul L.
TITLE	A Study: Conservation Education and the Western Textbook.
INSTITUTION	California State Dept. of Education, Sacramento. Office of Conservation Education.
PUB DATE	[73]
NOTE	39p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Conservation Education; *Content Analysis; Elementary Grades; *Environment; Evaluation; *Research; Secondary Grades; State Programs; Textbook Content; *Textbook Selection
IDENTIFIERS	Western United States

ABSTRACT

The objectives of this study were two-fold: (1) evaluating the conservation content in the elementary, intermediate, and secondary grade textbooks used in 13 western states, and (2) researching, recording, and reviewing the textbook selection procedures. Part I indicates that textbooks are selected either by a state agency or the local school unit, depending on the state's needs and level of education. A summary of adoption procedures is presented for each of the states: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming. In addition, an example of the California textbook selection process, step by step, is outlined together with some ideas for getting additional environmental material into the textbooks and NEA findings for textbook selection procedures throughout the 50 states. Part II details the evaluation of textbook content, discussing environmental concepts in subject texts for science, mathematics, English, health, history, and social studies. Supplemental material includes a sample of the evaluation instrument, a list of general environmental concepts, and responses to the evaluation instrument for 14 selected textbooks. The study concluded there was true lack of environmental information in the textbooks evaluated. (BL)

FILMED FROM BEST AVAILABLE COPY

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

ED 073918

A Study:

Conservation Education

and the

Western Textbook

submitted by

Paul L. Fadelli, Staff Assistant
in California Dept. of Education
Conservation Education
under Rudy Schafer

SE015672

Contents Outline

Objectives--Procedures

Part I. Textbook Adoption Procedures

Survey of adoption procedures
(a) Alaska
(b) Arizona
(c) California
(d) Idaho
(e) Nevada
(f) New Mexico
(g) Oregon
(h) Utah

California Procedure Chart

50 State Findings

Ideas for Improvement

Part II. Textbook Evaluation

Perspective on Text Topics

Subjects and States Chart

The Test for a Text
(a) Conceptual content
(b) Concepts
(c) Academic respondents

Textbooks of Western States
(a) Science
(b) Social Studies--- History
(c) English
(d) Math
(e) Health

Conclusion

Complications

Objectives

The objectives of this study were two-fold. First, the textbook selection procedures were to be researched, recorded, and reviewed. Secondly, the study's primary responsibility lies in evaluating the textbooks of the 13 Western states. Studying the conservation content of science, mathematics, English, health, and social science texts was the major aim of this study.

Procedures

Information on the textbook adoption procedures was collected through correspondence and research.

The procedures for the conservation information study were a bit more complicated.

The thirteen states were contacted through their conservation education representatives and course subjects were randomly given to each state in three separate levels: primary (K-6), intermediate (7-8), and secondary (9-12). A request was made for a book from each grade level and the specific text selection was left entirely up to the education representatives. They were reminded that we did not desire books which were especially good or bad with respect to environmental concepts. The states were assured that individual states would not be referred to; our goal was to investigate the Western region as a whole. All the books received were evaluated with the form which follows in Part II.

PART I

Textbook Procedures

WESTERN REGIONAL STATES TEXTBOOK SELECTION PROCEDURES

There are two basic procedures through which textbooks are selected in the Western states. The task can either be assigned to a state agency or to local units of each state.

Local units in Colorado, Montana, Washington, and Wyoming select their texts at the elementary level, and at the secondary level Arizona, California, Colorado, Montana, Nevada, Washington, and Wyoming leave the choosing to their local units.

At the elementary level in Alaska, Arizona, California, Hawaii, Idaho, New Mexico, Oregon, and Utah, state agencies are responsible for selecting textbooks, as they also are on the secondary level in Alaska, Hawaii, Idaho, New Mexico, Oregon, and Utah. Each state decides which procedure is best for each level of education and sets up a program to fit its needs. Thus, some states have a different system of textbook selection in each level.

When a state selects textbooks, there is usually a multiple list of selections for the various topics. There are exceptions, however, as in the cases of Idaho and California in the elementary level where only one text is selected for several subjects. Usually, a list is drawn up of all the texts which are acceptable to the state for local selection.

Of the states which select their texts by statute, more are selected through the state agency method than through the local units.

There are quite a few agencies involved with textbook selection in the states where there is at least some state control. In Nevada, Oregon, and Utah, the state selection agency consists of a separate textbook commission. The State Board is entirely responsible for text selection in Arizona, while the State Board and a textbook commission is responsible in California. In Idaho and New Mexico a commission or committee recommends actions to the State Board, and in Alaska and Hawaii an advisory committee works with the State Department.

Each state changes its lists of recommended books periodically--some more often than others. The average number of years is usually around every four years, but New Mexico changes every six years, and California is the most indefinite in their changing period, four to eight years.

A SURVEY OF ADOPTION PROCEDURES OF THE WESTERN STATES

Note: Colorado, Montana, Washington, and Wyoming have local districts select texts at both the elementary and secondary level so their adoption procedures are not available. No specific information was available for Hawaii.

ALASKA. The state notifies publishers on record one year in advance of adoption (usually in March) listing subject areas under consideration. Notification includes names and addresses of the Textbook Commission members to whom one sample copy of each book offered is sent before the announced deadline (usually in October). The publishers also send a list in duplicate of the titles, giving subject, grade level, copyright, and related materials. One copy of the list is returned to the publishers as a receipt. There are also individual hearings with Commissioners which are permissible if made by an advance appointment. Group hearings are scheduled in November before the entire Commission at the request of the representative by October 1. Bids must be submitted on a special State Department of Education form obtained from the Department. Bids list each book with author, title, copyright, subject, grade or grades for which it is recommended, price and West Coast depository. Bids are submitted in duplicate in a sealed envelope plainly marked "Textbook Bid". Sales are made directly to ordering schools or systems by the designated depository or the publisher and are billed to and paid for by the customer. The depository is usually adequately stocked by July 1.

ARIZONA. In November the State Board of Education notifies the publishers as well as elementary school districts of forthcoming adoptions in a given area according to a staggered system. In January the committee is appointed and their names and addresses are sent to the publishers. There are nine state committees appointed, composed of five to eight members, to screen the various subjects headed by nine state chairmen who require five dissenting votes to eliminate a contender. Sample copies are usually on file in the Department of Public Instruction by Sepgember 1, in the hands of the committee members by October 1, with a November 1 cut-off. Committees evaluate the books during the month of October and publishers' representatives are permitted to make their presentations before the nine committees during this month. On November 15 the nine committees make their report to the State Department and on January 1 the chairmen meet in Phoenix to present final ballots and recommendations to the State Board. Sealed bids on forms provided by the state must be filed by December 20, while the final award is made in January. Purchasing is made directly from the publishers.

CALIFORNIA. California makes annual adoptions of elementary texts according to the adoption cycle. Publishers on record are notified in March and must respond with a letter of intent listing titles which are to be offered. One hundred to one hundred and thirty five free examination copies are required before June and another 350 free copies of each title in November, should the text survive the initial screening. Sample books of successful bidders go to 50 exhibit libraries throughout the state. Individual hearings with Committee members and their advisors are permitted by appointment only and are limited to one visit. Bids are opening in January, recommendations follow in March, with final awards in May. While no high school textbooks are adopted, publishers of high school texts are required to post a bond with the state, guaranteeing that their books are being sold at as low a price in California as they are elsewhere in the nation.

A call for bids is sent to publishers on file early in March and the publishers must respond with a letter on intent within two weeks time. Bids are due by a specific date in November on forms furnished by the state, making an offer under two alternatives ranging from supplying completed books to leasing plates or film for state printing. Recommendations are made in January, and final awards are made in February. The state distributes its own state-printed books through its own warehouse and pays the publisher directly. Supplementary elementary texts and secondary texts are bought through State Depositories where the publishers maintain a stock.

IDAHO. A call for bids as well as a list of the names and addresses of the State Textbook and Improvement of Instruction Committee is sent to publishers on file in March, with a November 1 bid deadline. Samples are sent to each member of the Committee immediately, and appointments are made at this time (not mandatory, but advisable) for representatives to be present at the group hearings held in Boise in April. All this is usually done on the appropriate form furnished by the State Department of Education. No official samples are required, and individual hearings with members of the Committee are permitted anytime after the Group Hearings in April and November. Revised editions of books already on the state adoption list may be offered two years after the original edition went on the list. Contracts are usually awarded in January of the purchase year. Sealed bids in duplicate must be filed with the State Department of Education on or before November 1 on the bid form furnished by the state. No filing fees or deposits are required with the bid. Most orders are placed through the State Depository, and Idaho has in the past adopted paperback books as well.

NEVADA. A school district applies for permission to conduct an evaluation of a selected series of texts in a format established by the Commission. After approval for evaluation, the Secretary of the Commission notifies the publishers to submit texts and materials to the Secretary and each member of the Commission. Upon approval, the school district follows the following procedure:

a. The evaluation project according to the format established by the Commission is developed.

b. The textbooks are to be used for at least one half of the school year.

c. The textbooks are used in each grade level of the subject that is included in the proposed adoption.

d. At the end of the evaluation, a written summary is prepared for the Commission.

e. At the designated meeting of the Commission, the school district presents an oral report of the findings of the evaluation.

The Commission reviews the results of the evaluation and, if approved, recommends for adoption to the State Board of Education. All evaluation reports become a part of the minutes of the State Textbook Commission meetings. Bids are filed on forms provided for this purpose after the textbook has been recommended. Books are then purchased by the district directly from the publisher's warehouse.

NEW MEXICO. Prior to the expiration date of existing contracts for basic materials, not more than every six years in the same subject field, the State Board of Education calls for an adoption and the textbook director notifies publishers on record, usually in May. Separate committees are appointed to screen each subject field and publishers' representatives are permitted to hold individual hearings or visit with them anytime up to the 30th of October. Fifteen days later, all committees meet in Santa Fe to reconcile their recommendations before opening the bids in November, with final contract awards in December. Committee members are sampled anytime from June until August and official samples are due before the bid is filed. Bids are submitted in triplicate accompanied by a certificate check or bond in the amount of $1000 guaranteeing that the books are being bid at the lowest price at which they are sold anywhere in the United States in November, and the final awards are made usually in December. Books are bought through the privately owned State Textbook Depositories and accounts between the State Textbook Division are paid for every three months.

OREGON. In even numbered years and usually in late January, the State notifies the publishers on record in which areas new adoptions will be made according to a staggered schedule, and furnishes them with the names and addresses of State Textbook Commission members. Bookmen are only permitted to contact official evaluation committee members during the organized tour to be held in September and October. They are allowed in addition two official interviews of not more than one hour with members of the Textbook Commission, and one visit with the personal advisors of the Commissioners. All officials interviews shall occur between April 1 and October 25 and first interviews should be filed before the opening of bids. No group hearings are held and adoptions are made not later than the third Monday in November. All publishers are asked to prepare briefs showing how their books relate to the printed criteria prepared by the Textbook Commission prior to September 1. Oregon furnishes the various school districts with a printed list of state-adopted textbooks prior to February 1 listing multiple choice series in each subject from which the school district makes its local selection or adoption. Invitations to bid are sent to the publishers on file early in January and sealed bids submitted on the form supplied by the state must be filed before the third Monday in November when bids are opened and awards are made. Official samples must be on file and filing must have been paid. Books are usually bought through the state depository.

UTAH. Only new books that have been published since the last adoption or books that have been on the state list for four years are considered. Notice of Adoption of Textbooks is sent to publishers on record early in January as well as the names and addresses of members of the State Curriculum Advisory Committee to whom sample textbooks are sent until September. Publishers must respond in a letter of intent on a form "List of Textbooks Submitted for Adoption" supplied by the state not later than July 1. All the books are listed, whether they are off the press or not, which are anticipated as being submitted for adoption before the deadline of August 1. The list is sent in triplicate to Dr. Lerue Winget, Secretary of the Utah State Textbook Commission. One sample copy of each textbook should be sent to each member of the State Textbook Commission (distinct from the State Curriculum Advisory Committee) excluding the State Superintendent who receives one of the three official samples. New books are

considered annually in all subject areas. It is expected that the presentations of textbooks by company representatives will be made to State Curriculum Advisory Committee members or their Committee Presentations to Textbook Commission members. If this is not the case, presentations can only be made upon invitation. Sealed proposals must be submitted before October 2 on forms provided by the state in envelopes clearly marked "Textbook Bid". Bids are opened in late November and awards follow. No bid deposits or filing fees are required. Books are bought through the state depository, and Utah has in the past adopted paperback books.

AN EXAMPLE OF TEXT SELECTION PROCESS STEP BY STEP: CALIFORNIA

The frequency of change scale, presented in the appendix, gives some indication as to the year span and rate of textbook change. Those which have a shorter time span (i.e., Washington, three to five years, as compared to California, four to eight years) can change, of course, more easily and keep up with contemporary materials better than those states which have a greater time span. As an example of the time sequence and the various processes which go on in that period, the California example (Table 1) of textbook selection follows with the various organizations and their functions next to the appropriate time schedule.

TABLE I

SELECTION AND ADOPTION OF ELEMENTARY SCHOOL TEXTBOOKS IN CALIFORNIA

Organization	Function	Approximate Time Schedule
Curriculum Commission (appointed by State Board of Education, chaired by State Superintendent	sets length of adoptions.	4 or 8 years; e.g., present music books expire in 1966, so the following dates will apply to music textbooks.
Commission Subcommittees	engages in preparation of criteria to govern call for bids and judging books.	
State Board of Education	requests call for bids.	
Bureau of Textbooks and Publications	issues call for bids.	1963
Publishers	provide textbooks	
Bureau of Textbooks	distributes textbooks to Commission members.	
Commission Members (drawing on 300 to 2500 professors, supervisors, teachers, lay persons, and so forth)	in their respective areas of the State, study and screen the textbooks.	1964
Commission	chooses text(which is to revised on the basis of the above study)and supplementary text(s).	
More than 10 public libraries	exhibit selected textbooks.	
State Board of Education	receives recommendation of Commission and inspection copies of the textbooks.	
	Open bids.	1965
Commission	makes official recommendation to State Board of Education.	
State Board and Commission	meet jointly and hold a public hearing.	
State Board of Education	makes formal adoption.	
State of California	purchases or prints revised textbooks	1965-66
Bureau of Textbooks	distributes textbooks to schools	July, 1966
Schools	use textbook	until next adoption in 1970 or 1974

50 STATE FINDINGS FOR TEXTBOOK SELECTION PROCEDURES

(Taken from the NEA Research Memo)

--In no state are textbook selections subject to approval by the Legislature.

--Where some state control is exercised, there is usually statutory authorization for it.

--There is no predominant state agency with sole authority for textbook selections in the 27 states where some state control is exercised; a variety of patterns exists, though frequently the State Board has final approval authority.

--Selection of textbooks is left to local units more often at the secondary school level than at the elementary school level.

--Where selections are made at the state level, mutliple choice lists far outweigh single selections for each subject.

--States are about equally divided between those having statutory provisions regarding frequency of changes in adopted textbooks and those having no such statute.

--Elementary school pupils are more often furnished free textbooks than are secondary school students.

--Where textbooks are furnished free, it is usually mandatory by statute; where the statute is permissive only, many districts--or whole states--do not furnish free books.

--Seldom are private school pupils furnished books on the same basis as are public school pupils.

--Only in California does the state print any of its textbooks, and in that state only some of the elementary school textbooks are state printed.

THE SELECTION PROCESS OF TEXTBOOKS--IDEAS FOR IMPROVEMENT--GETTING CONSERVATION INTO THE TEXTBOOKS

States where the local units select:

1. Because there is a great number of states which allow their local units to select the textbooks at the various levels of education, an effort should be made to get environmental groups involved with committees and groups which are involved in textbook selection.

2. Members of active conservation groups and those involved with environmental education throughout the western states should try to achieve a position(s) on the local committees which select or promote textbooks to the State Boards and committees.

3. The initial step at the local levels is for conservation groups and the Departments of Education to contact the local system responsible for selection at the district level. Contact should be maintained, a dialogue should be started, and each group should help the other in any way possible to reach the goal of securing better textbooks.

4. A list of texts with acceptable environmental information and concepts should be made available to local groups and be produced by informed and interested citizenery in environmental studies (preferably by the Conservation Education Department of the Departments of Education). Where there is a law, it should be printed and made available to the school boards for their purposes. Where there is no law, requests, recommendations, and examples of other states' laws should be presented.

5. There is a new need for teachers who are involved with environmental studies and can competently teach subjects involved with conservation and ecology. When the hiring of new teachers is undertaken, an emphasis should be placed on those who have had some sort of education in environmental studies. If this is done, books with environmental concepts will be requested directly from the teachers themselves.

States where the major selection process is done by the local districts: Colorado, Montana, Washington, Wyoming, and at the secondary level only: Arizona, California, and Nevada.

State Adoption

Selection through a state agency:

1. A multiple selection list of acceptable texts should be available to the state agencies who are responsible for text selections, prepared by a concerned and influential conservation committee or group.

2. Publishers of children's texts and other publishers should be contacted by a conservation education group and educator with recommendations for improving school texts environmentally.

3. Private and individual recommendations would be helpful if sent to the state agency responsible for selection, and they should be encouraged.

4. In many states text representatives appear before state committees in attempts to pursuade purchasing of their products. These representatives should be contacted by a conservation education group or representative and should be given the desires and demands of the group (i.e., the Department of Education) and any law that exists. A request should be made to the agency that if fair conservation concepts are not adhered to in the publisher's product a boycott of their products would be advisable.

5. State agencies who are responsible for accepting bids should have or develop a list of regulations--qualifications--including an environmental code which can be presented to publishers as a pre-requisite for bid acceptance.

6. Where there are reviews and individual or group hearings, as in the cases of Idaho and Nevada, environmentally concerned citizens and professionals, (i.e., conservation education directors), should make themselves available to support those texts with satisfactory environmental concepts.

States where the major selection process is done by the state through a state agency: Alaska, Arizona, Hawaii, Idaho, New Mexico, Oregon and Utah.

States where state agencies select only at the elementary level: Arizona, California, and Nevada.

PART II.

Textbook Evaluation

Perspective on Text Topics

Each text topic presents different problems and capabilities when it comes to expressing environmental concepts and, therefore, there are going to be different things to look for when evaluating textbooks. What follows are a few things which were considered in the evaluation of the textbooks.

Health

Health textbooks can be exceedingly helpful in the spreading of environmental concepts and knowledge. Health is the key to the very condition of the human race, and it is through this subject that personal student involvement can be the most effective.

The subject of health should not only cover the workings of the human body, foods, medicines, and exercise--but it should also in some way discuss the qualities of land, air, and water which also affect the health of everyone. The health of our wildlife and of our environment at large.

Health textbooks present a fine opportunity for students to study what is needed in order to remain healthy, while at the same time studying the benefits of a healthy society.

History

In American schools it is not likely that World History textbooks will have a great number of environmental concepts unique to American conservation thought. For one reason, when compared to other worldwide historical conservation events, there has been no major historical environmental event, and the World History teacher cannot truly be expected to effectively include environmental concepts in such a broad field of study. What can be included in such a history class, however, are the philosophies of the day which might have changed or altered the environment. Also, for an effective overview of the course, the text should include as its final chapter a look to the future, and it is in this chapter that world ecological problems can be referred to more easily.

American History texts present a better opportunity for environmental concepts to be incorporated into the basic study plan. Such topics as the Westward movement, exploration, topography, and economics can and should be discussed with reference to pollution, conservation, and waste in the United States. A clear historical perspective of why Americans think the way they do and why we presently have an environmental problem should be a major goal in the teaching of American History. Visual material in the texts might be extremely advantageous.

English (Literature and Grammar)

In the primary schools, the stories presented in reading groups and in later grades, the noted literature, can have a great amount of influence on the student who is just learning about environmental problems. While the student improves upon his reading skills, he can also be brought into contact with many environmental concepts and terms. At the secondary level where established literary works are usually the basic texts for literature, relaying environmental concepts might be more difficult. However, wherever setting, symbolism, and story allow, relationships and parallels should be drawn with contemporary environmental problems.

The English grammar textbook presents basically the same problem as the math textbook which relies primarily on word problems. Only through the examples given to work with, can new and important concepts be worked with. For example, the sentences used in the diagramming of sentences is something which should be looked into as a possible means of EXTENDING conservation education. Even though the child will basically be learning the structure of the sentence, he will also have to read what the sentence says and maybe something can be learned from this.

Mathematics

There are few opportunities to include environmental concepts in textbooks dealing with mathematics. The subject matter, the style of most math books, and the methods used in its teaching usually make it difficult to develop any ways in which broad concepts or information of any other variety besides mathematics can be expressed.

In only one instance is there the possibility of involving the student with environmental information in connection with mathematics: the word problem. The word problem is a good way to present practical problems which can involve environmental issues. The wording of the word problems in connection with environmental concepts and problems becomes extremely important. Various connotations can be taken from the misuse of a single word and, because most math problems deal with the solving of an unknown or quantity, special care should be made to make word problems consistent with sound concepts whenever possible (i.e., problems shouldn't constantly deal with the cutting of timber or the waste of a factory--instead, the positive side should be stressed: trees which are replanted and the amount of paper which is recycled, for example). With this in mind the word problem can become a constructive tool in the fight to make children aware of our environmental concerns.

Science

There is no other course which can be better developed into a valuable educational experience in connection with the environment than the science course, and no other text, whether it be a primary, intermediate, or secondary textbook, can be of greater value than one about the natural sciences.

With no other course is there the direct capability to include environmental concepts and ideas into the everyday lessons of the student; in no other text can important conservation be handled more naturally. The primary and junior high science textbooks and the biology, chemistry, physics, and zoology texts at the secondary level should presently not only be devoting entire chapters to "ecology" and environmental problems--but also should be incorporating general conservation ethics and concepts in the body of other science material and discussions. The texts should include several up-to-date graphs and illustrations wherever possible to be more effective, and the inclusion of class projects could indeed be the most important way to educate children in conservation. With such high standards, the science texts will, of course, be the most important and be judged the most critically on their content.

Subjects Contributed to the Study

Book Topic	Number
Science	10
Social Science	3
English	2
Mathematics	2
Health	1

States Contributing to the Study

Alaska	0
Arizona	0
California	3
Colorado	3
Hawaii	1
Idaho	4
Montana	0
Nevada	0
New Mexico	0
Oregon	0
Utah	3
Washington	0
Wyoming	0
	14 total

The Test for a Text

Name of text _____.

Authors _____.

Date _____.

Level _____.

Book description _____.

Visible relationship:

1. Anything in the table of contents or introduction referring specifically to conservation, the environment, and pollution?

2. Anything obvious in the index?

3. Any devoted chapter?

4. Involvement with what topics? (a). (b). etc.

5. Pictures of illustrations?

6. Bibliography or references listed?

Implied relationship:

7. Are environmental concepts expressed? Which ones? Fairly? Could they have been?

8. Was there fair coverage with reference to the subject of the text? Was conservation presented as a discipline or a way of life?

9. Other comments.

Concepts (see following pages)

10.

1.	8.
2.	9.
3.	10.
4.	11.
5.	12.
6.	13.
7.	14.

Conceptual Content

To further evaluate the chosen texts, we must also take a look at the concepts which are used or not used in relaying conservation information.

A study, undertaken by the Wisconsin Research and Development Center for Cognitive Learning at the University of Wisconsin, presented a list of environmental management concepts to a broad professional academic panel of scholars. There were 40 academic areas covered and 350 responding scholars representing these areas ranging from General Agriculture to Wildlife Ecology (see listing below).

The major concepts relate to the general areas traditionally considered to be environmental and several conceptual topics were used in the study (i.e., Soils, Political Science, Economics). The educators were asked to rate the given concepts on a scale consisting of five choices: Essential, Highly Desirable, Desirable, Satisfactory, and Unacceptable.

The concepts which have been chosen for this study are among those which received the highest "Weighted Item Mean Score", and they usually turned out to be among the most general concepts offered to the educators. The fourteen concepts included here are meant to give some indication as to whether or not general concepts are successfully transmitted through the text; therefore, an attempt was made to keep the concepts general and to leave out specific concepts which dealt with "Soil", "Plants", or "Animals", for example.

The fourteen concepts in this study come from eight topic areas, and they include Environmental Management; Economics, Environmental Problems, Environmental Ecology, Socio-Cultural Environment, Political, the Family, and Psychological Aspects.

CONCEPTS

1 - 1. Living things are interdependent with one another and their environment.

2 - 2. Man has been a factor affecting plant and animal succession and environmental processes.

3 - 3. The management of natural resources to meet the needs of successive generations demands long-range planning.

4 - 26. Ready transportation, growing interest, money surpluses, and increased leisure time combine to create heavy pressures on existing recreation facilities and demands for new ones.

5 - 29. Economic efficiency does not always result in conservation of a natural resource.

6 - 44. Safe waste disposal, including the reduction of harmful and cumulative effects of various solids, liquids, gases, radio-active wastes and heat, is important if the well-being of man and the environment is to be preserved.

7 - 47. Natural resources are interdependent and the use or misuse of one will affect others.

8 - 49. Most resources are vulnerable to depletion in quantity, quality, or both.

9 - 82. Man has responsibility to develop an appreciation of and respect for the rights of others.

10 - 83. Individual citizens should be stimulated to become well informed about resource issues, problems, management procedures, and ecological principles.

11 - 96. Individual citizens should be stimulated to become active in the political process.

12 -101. Family planning and the limiting of family size are important if overpopulation is to be avoided and a reasonable standard of living assured for successive generations.

13 -102. An individual must develop his ability to perceive if he is to increase his awareness and develop environmental perspective.

14 -108. Opportunities to experience and enjoy nature qre psychologically rewarding to many and are important to mental health.

The second number corresponds to its official numbering in the Wisconsin study.

Number of Respondents by Academic Discipline

Academic Disciplines	Respondents
1. Agriculture (General)	5
2. Agricultural Economics	5
3. Art (Fine Arts)	11
4. Botany (Plant Ecology)	14
5. Chemistry	14
6. Civil Engineering	13
7. Commerce	6
8. Community Leadership (Extension Education)	8
9. Computer Science	6
10. Economics	10
11. Education	18
12. Environmental Design	4
13. Food Science	13
14. Genetics	7
15. Geography	13
16. Geology	11
17. Guidance and Counseling	7
18. Hydrology	5
19. Journalism	6
20. Landscape Architecture	9
21. Mass Communications	7
22. Medical Education	7
23. Meteorology	5
24. Music	7
25. Natural Resource Conservation	10
26. Oncology (Biochemistry	7
27. Parks and Recreation Management	4
28. Pharmcology	4
29. Physics	12
30. Political Science	10
31. Public Health	7
32. Recreation Education	13
33. Rural Sociology	3
34. Social Work	7
35. Sociology	12
36. Soils	9
37. Theater Production	10
38. Urban and Regional Planning	8
39. Veterinary Science	7
40. Wildlife Ecology	16
	350

The Textbooks of the Western States

Science

Life Processes of Plants

Tannenbaum, Tannenbaum
Stillman, Stillman

1967

Intermediate

Scientific text dealing with plant experiments.

1. No contents.

2. No index.

3. No.

4. The topics discussed were principly about plants and their functions--no environmental topics.

5. There were pictures dealing with the experiments.

6. There was a book and film bibliography, none dealing directly with conservation.

7. No, - , - , An experiment could have been carried through where an environmental concept about plants could have been related in some way.

8. No, No.

9. The book was a good experimental text, and it would seem to serve its purpose well, but there is a noticeable scarcity of conservation information. Grade: C-

10. Concepts:

1.	Yes (acquariam exper.)	8.	No
2.	Yes (through all exper.)	9.	No
3.	No	10.	No
4.	No	11.	No
5.	No	12.	No
6.	No	13.	No
7.	No	14.	No

Biology, Pattern in the Environment

Morholt, Brandwein, Ward

1972

Secondary

A general biology text comparing all aspects of living things with great emphasis on environmental topics.

1. There are several chapters listed which deal directly with environmental concerns (4).

2. Surprisingly, there was nothing on "Conservation" per se, but there are many references.

3. Chapter 5 deals with the biological environment, and Chapter 6 deals directly with the environment in connection with health.

4. Environmental topics included: air pollution, water pollution, chemical pollution in foods, etc.

5. Yes, there were pictures of industrial pollution, smog, cars and exhaust and other examples of environmental misuse.

6. No.

7. Yes, that man causes problems and pollution, man is hurt by his own actions. Yes, it was fairly treated.

8. There could have been more environmental information presented throughout the book, especially with the misrepresented title of the book.

9. This text covers all of man's environments including his "inner" environment, and many broad topics are discussed. It is a good general text with plenty of photographs; however, there is not enough stress placed on the need to improve. Instead, there seems to be the impression given in this book that alot is being done and the photo of industrial pollution shows that the area no longer gives off pollution and that the tide has turned, which is misleading.
Grade: C+

10. Concepts:

1.	Yes	8.	Yes
2.	Yes	9.	Yes
3.	Yes	10.	Yes
4.	No	11.	No
5.	No	12.	No
6.	No	13.	No
7.	Yes	14.	No

Science, Understanding Your Environment

Mallison, et. al.

1972

Intermediate

1. No specific reference to conservation in contents.

2. "Conservation" and "Environment" were not listed. "Pollution" was listed with a few references below it.

3. No specifically devoted chapters on conservation, but a couple of chapters could have had such information.

4. The environmental topics discussed were water pollution, pollution experiments, SST pollution, and thermol pollution.

5. There were many photos and drawings; several drawings on clean air and water--only one photo of pollution (water).

6. No.

7. Yes, but they were all on one page entitled "Water Pollution". Concepts: Man pollutes and endangers other life forms, his actions may affect his very existence, changing might cause other things to change.

8. No, there were many opportunities for this book to express or at least present information concerning the environment. For example, the unit topics could have easily presented relevant information with such titles as "The Earth's Air", "Control of Electrical Energy". For example, "Man's Survival" could have presented fine examples where scientific thought and conservation oriented ideas could have been combined. They failed to do this with this book.

9. A fairly good science book with the basic theme being man and his environment, but the main picture the text presents is how man can best use his environment instead of preserving it. Grade: C

10. Concepts:
    1. Yes
    2. Yes
    3. No
    4. No
    5. No
    6. No
    7. Yes
    8. No
    9. No
    10. No
    11. No
    12. No
    13. No
    14. No

Science-Finding Out

Barnard, Lavatelli

1970

Elementary

A general science text which is divided into six chapters seemed to have been picked at random: i.e., "Finding Out About Plants", "Finding Out About Heat", "...About Rocks".

1. No.

2. No.

3. No.

4. No conservation topics even when discussing plants and animals.

5. None dealing with conservation.

6. No.

7. No.

8. No, neither experiments nor the study plan would have been good places for environmental concepts.

9. This text is a good primary book for the beginner, but the spectrum of topics is too narrow. There were no environmental concepts or advice on how to relate such material in the teachers' appendix. Grade: D

10. Concepts:

1.	No	8.	No
2.	No	9.	No
3.	No	10.	No
4.	No	11.	No
5.	No	12.	No
6.	No	13.	No
7.	No	14.	No

Science: Measuring Things

Barnard, Lavatelli

1970

Intermediate

A general science text with the basic theme of measuring carried throughout the text.

1. The chapter "Life on Earth" has described beneath it, "There is a natural balance, or interdependence, among all living things."

2. Incluces "Conservation" with many references, "Environment", and "Pollution, air".

3. Within the chapter "Life on Earth" (7), there are 27 pages devoted to conserving resources.

4. Topics discussed included: wildlife, forest, soil, air, and water conservation; wildlife refuges and human resources are also discussed.

5. Yes, there are several photos concerning ecology and conservation in the section.

6. None.

7. Yes, that conservation is important for everyone, that there are many facets to conservation, that conservation is something people should get interested in.

8. Yes, the coverage was fair and was presented as a way of life in the chapter devoted to conservation.

9. This was a good text--more technical than others and especially designed to get students interested in measuring things. Although the section on conservation was very good, the book often gave answers that were too simple to tough environmental problems. The book seemed to infer that answers to all problems were easy. Grade: A-

10. Concepts:

1.	Yes	8.	Yes
2.	Yes	9.	No
3.	Yes	10.	No
4.	No	11.	No
5.	No	12.	No
6.	No	13.	No
7.	Yes	14.	No

Modern Science

Smith, Blecha, Pless

1970

Elementary

The text is an introduction to science, and only general topics are discussed.

1. No.

2. No.

3. No.

4. There was no involvement with conservation topics aside from introductions to various types of vegetation and topographical regions.

5. Many illustrations--none particularly shown for environmental purposes.

6. No.

7. No.

8. No, much more could have been included with reference to conservation.

9. The text seems to be fair for an introduction to science, but environmental concepts must be stressed with the young in books like this. The concept of "adoption" is well covered. Grade: C-

10. Concepts:

1.	No	8.	No
2.	No	9.	No
3.	No	10.	No
4.	No	11.	No
5.	No	12.	No
6.	No	13.	No
7.	No	14.	No

The Textbooks of the Western States

Social Studies, History

Our Changing World

Sobel, Oliver

1969

Secondary

This text is a general social studies textbook of the world, and it discusses wide-ranging topics about mankind around the globe. Sociology, anthropology, and geography are heavily discussed.

1. Chapter 13, "Man and Conservation", is listed.

2. "Conservation" and "environment" are listed.

3. Chapter 13, "Man and Conservation".

4. The topics dealt with are resources of man, conservation of soil, conserving mineral resources, and human resources. The changing attitude toward conservation is also discussed.

5. Yes, but it wasn't an extremely good selection.

6. Yes, with 13 references.

7. Yes, man has been wasteful and shouldn't be now; conservation is necessary; man's changes affect all things and causes other changes.

8. There was fair coverage. For the amount and variety of material covered, more and better information could have been included. Conservation was presented as a discipline and a way of life. They projected the concept heavily that man's very existence depends on wise conservation.

9. The general theme of the text was one of man's use. Great emphasis was put on business and industry--thus, water, air, and wildlife were left out of the section on conservation for soil and mineral conservation. But, many of the major concepts were included. Grade: B+

10. Concepts:

1.	Yes	8.	Yes
2.	Yes	9.	Yes
3.	Yes	10.	Yes
4.	No	11.	Yes
5.	No	12.	Yes
6.	No	13.	No
7.	Yes	14.	No

United States History

Current, DeConde, Dante

1967

Secondary

A chronological history of the United States from the exploration of North America to a history of the mid-60's.

1. There are several sub-titles which could reflect environmental concepts, like "Living and Working Patterns Change", but there is nothing specific.

2. "Conservation" was included.

3. No

4. The beginning of conservation was discussed--also picture essays on the United States landscape were included which contained photos on the landscape, communities, industry, and cities.

5. The essays dealt with housing and the changing countryside.

6. No.

7. Few. One concept was that conservation was important (page 495), and this concept was presented in an historical manner under the chapter, "The Response of Progress".

8. No. There was great opportunity in this good text to present more information on conservation. Also the picture essays present a fine means in which to display conservation concepts.

9. The text was precise and extremely visually exciting with graphs, charts, illustrations, and plenty of photos. However, few environmental concepts were expressed. In many instances the text even seemed to present the image that things bad were getting better. The book stated that the image that people have about industry wrecking the landscape is wrong and give a picture example to prove their point. Grade: C+

10. Concepts:
    1. No
    2. No
    3. Yes
    4. No
    5. No
    6. No
    7. No
    8. No
    9. No
    10. No
    11. Yes
    12. No
    13. No
    14. No

Viewpoints USA

Bernard Feder

1967

Secondary

A history text of the USA covering the coloniak period to the Vietnamese War. Information is in viewpoint form, not plain information.

1. No.

2. No.

3. A chapter devoted to big business and its rise to power in the United States.

4. Chapter on the "Rise of the Businessman" gives both sides of how big business and the monopolies began in the United States. Such topics as waste, extravagance, and corruption are discussed.

5. There are few pictures in the text. There is a photo of industrial pollution on the chapter about big business.

6. After each chapter there is a section of suggested additional reading.

7. There aren't too many expressed in the text. Only in one case, in one paragraph, does it read that business and profits present a challenge to the United States.

8. More coverage could have been given especially in the later chapter, to conservation where present American problems like the Vietnam War and the racial issue were discussed.

9. The concept of this book is to present issues and give a dialouge with different views of American situations. Different notables were quoted.
Grade: C+

10. Concepts:

1.	No.	8.	No
2.	No	9.	No
3.	No	10.	No
4.	No	11.	No
5.	Yes	12.	No
6.	No	13.	No
7.	No	14.	No

The Textbooks of the Western States

English

Here and There Stories

Elizabeth C. Robinson

1967

Primary, Grade 3

This book is a collection of famous and original stories for the primary reader.

1. No.
2. No index.
3. No.
4. No conservation topics presented--mostly fables and fairy tales.
5. Many illustrations about the stories--none to do with conservation.
6. None.
7. No, - , - , yes-one two page story would have been helpful.
8. No, there could have been a story about the ocean or forest. No.
9. This book is a good introduction to well-known tales and stories; however, the only example about appreciation for nature was Robert Frost's poem: "Stopping by Woods on a Snowy Evening". Grade: D
10. Concepts:
    1. No
    2. No
    3. No
    4. No
    5. No
    6. No
    7. No
    8. No
    9. No
    10. No
    11. No
    12. No
    13. No
    14. No

The Arts and Skills of English

Owen Thomas

1972

Primary, Grade 5

An English book stressing the study of the language through grammar, literature, and short exercises in English.

1. There were several sections (stories) pertaining to wildlife and nature.

2. Nothing directly.

3. No.

4. There were a variety of topics discussed in the book, the two which basically dealt with our focus of interest was an example of newswriting which was about pollution and a section on a feature story which was about saving and helping fish.

5. There were many illustrations--many about nature and wildlife.

6. None.

7. Yes. That wildlife should be helped whenever possible, page 207, that pollution is bad and that laws should be passed to fight against pollution, page 250.

8. Yes, it was presented in a casual and natural manner and the choice of the poems was extremely good, as nature seemed to be stressed.

9. This text was an extremely well written and presented text with racially balanced illustrations, good layout, exercises, and this text gave environmental information in the course of explaining how to do something else which is highly commendable. Grade: A-

10. Concepts:

1.	Yes	8.	Yes
2.	Yes	9.	Yes
3.	No	10.	No
4.	No	11.	No
5.	No	12.	No
6.	No	13.	No
7.	Yes	14.	No

The Textbooks of the Western States

Mathematics

Mathematics, Structure and Skills

Denholm, Blank

1968

Intermediate, Grade 7

This book is an introduction to modern math, including the concepts of addition, geometry, multiplication, and decimals. There are a few word problems.

1. No.

2. No.

3. No.

4. None.

5. Few illustrations. Those it has deals with word problems.

6. None.

7. No, - , - , Concepts could have been expressed within a few word problems.

8. No, not one reference to conservation.

9. A good mathematics text. Illustrations are modern and the book tries to present contemporary humor. Even though it was a good text, at least one conservation concept could have been included in at least one word problem.
Grade: D

10. Concepts:
1. No
2. No
3. No
4. No
5. No
6. No
7. No
8. No
9. No
10. No
11. No
12. No
13. No
14. No

Exploring Elementary Mathematics

Keedy, Dwight, Nelson, Schuep, Anderson

1970

Primary, Grade 3

This text is a word and numerical problems book with good explanations.

1. No.

2. No.

3. No.

4. No environmental topics, only word problems brought in other topics besides math.

5. There are good illustrations, emphasizing a good ethnic balance. There are many pictures of animals, birds, flowers, etc. in connection with word problems--but there are no references made to conservation.

6. None referring to conservation.

7. No, - , - , Yes, there could have been in the word problem sets.

8. No, it could have been much better.

9. The topics dealt with were basically urban in nature and were in this sense well presented. However, there were a few problems dealing with the out of doors and wilderness and one of these few problems dealt with a trapper which is not a positive factor. Aside from a lack of environmental material, the text was a good, bright example of what can be done with elementary math books. Grade: C

10. Concepts:
    1. No
    2. Yes
    3. No
    4. No
    5. No
    6. No
    7. No
    8. No
    9. Yes
    10. No
    11. No
    12. No
    13. No
    14. No

The Textbooks of the Western States

Health

Health and Growth

Julius B. Richmond

1972

Intermediate, Grade 7

This text describes and discusses things whidh involve health and growth, including pollution, consumer protection, body growth, sleep, food, and public health.

1. Chapter one entitled "How Can Pollution Affect Health?"

2. "Pollution" and "environmental problems" are listed in the index.

3. Chapter one is devoted to pollution and the environment.

4. Chapter one deals with ecology, air pollution, water pollution, and remedies for noise and lanscape pollution.

5. There are graphs and illustrations of pollution, environmental cycles, the human anatomy and its affect after pollution, and photos of air, water, and lanscape pollution.

6. There is a section called "books of Information" which lists other conservation material in which to refer to.

7. Yes, it was treated fairly. Anti-pollution, search for wise use of resources, that there are relationships between all living things, that man must find answers, mental health can be affected by the environment.

8. Yes, fair coverage, yes.

9. The Teacher's Edition has explanations of what was presented in the unit on pollution--and lists what the unit reports--it explains and describes. It also has an entire section called "Enrichment Suggestions for Unit L" which includes 'Books for Children", "Books for Teachers", "Films", "Important Ideas Developed in the Unit"--each concept is explained separately. An excellent text. Grade: A

10. Concepts:

1. Yes	8. Yes
2. Yes	9. Yes
3. Yes	10. Yes
4. Yes	11. No
5. Yes	12. No
6. Yes	13. No
7. Yes	14. Yes

An Exceptional Four-Book Set

A special set of four science textbooks was sent by a state representative. The set was not what was requested, but they were examples of a fine series of environmentally-based science references for primary and intermediate grades.

The series is called the ECOLOGICAL SCIENCE SERIES and each of the books, "It's Our World", "It's Our Future", "It's Our Island, and "It's Our Choice", contains its own selected environmental topics. The topics are well covered and conservation is explained as a way of life.

There are fine photographs and relationships drawn in the set; however, it is questionable whether the set would be used as a regular text because there is a lack of regular science information. These books are thus basically for use in conjunction with other science texts.

Conclusion

The information of the textbooks procedure study is self-explanatory.

There are two major conclusions which can be drawn from the textbook evaluation section of the study. The first conclusion has to do with the textbook themselves, while the second has to do with study and its complications.

First of all and most important, the study indicated a true lack of environmental information in the textbooks received. There were those texts which displayed a good amount of information, but those texts were the exception and often presented conservation information superficially. Here are some other conclusions which could be drawn from the books collected:

--The science texts definitely held the most conservation information while predictably the math books had the least amount.

--In the social science textbooks, where environmental problems were discussed, the economic viewpoint seemed to be stressed as the most important.

--The average mark-score based on text topic and environmental information, of the entire set of books reviewed would be a C/C- average--far from the capabilities of most books.

--Generalities were the rule whenever conservation was discussed and there was seldom, if ever, more than one viewpoint expressed concerning environmental problems.

--Where there are sections on the environment, there is usually the underlying theme of man's ability to use the environment. Man's creativity and "progress" in technical achievements is stressed and the environment is seen as something to be used. There are some sections in certain texts which could become the center for conservation discussions (e.g., the lesson on "adoption"), but it would take an aware teacher to catch the specific topics of importance.

--It seems certain topics were included which could have been replaced by a chapter on conservation. The emphasis with space and the universe could have been lessoned in favor of more environmental lessons.

--The textbooks which can be called supplementary texts (i.e., the series of four books) proved to be exceptionally good and could in the long run contribute more to conservation education than the commonly-used texts.

--In all texts studied, the impression was conveyed that there is no longer the danger of man misusing natural resources. The future is always projected as being bright.

The second conclusion which became evident was that this study had many complications.

Complications

There were a great number of complications which arose in the course of the study and proved to hamper any kind of clear-cut conclusions which could have been reached.

First, I did not receive responses from several departments of education representatives after several letters of request were sent out. It is understandable that it might be difficult for the representatives from a few of the states which do not have state adoption programs to find the special texts. In the course of the study, I addressed a special letter to those states which didn't operate under the state adoption plan and asked if the conservation education representative would take it upon himself to obtain the three texts from local districts because it would be easier for them to get the books than it would be for me. Only Colorado responded and sent books.

These replies which came from state-adopted states were not speedy--and many sent no responses. Because of the limited time in which to complete the study, their tardiness did not help.

The letters I sent to representatives and publishers must have been misinterpreted by some. Instead of sending information about the processes of publishing regular texts or average textbooks from schools, I received catalogues for environmental books and environmentally-based books which had little to do with the purpose of the study--to study average textbooks and the common textbook adoption procedures.

In the end, the lack of concern and interest which was evident from the low number and wrong textbooks sent to the office (39 expected, we received 14) greatly hampered the conclusions. Although it was evident that there was a lack of conservation ethics and environmental topics discussed in the studied books, the small number makes one question the creedence of the stated conclusion.